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Non-Formal Vocational Training Programme and Content Relevance

The Industrial Training Fund Experience

Nigeria

LC/NAIROB

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Distinguished, Ladies and Gentlemen,

Manpower Development has been aptly defined by Lewis (1971; 135) as "the process aimed at transforming people so that they can contribute more effectively to the social and economic development of their society."

This definition highlights the development of the individual as related to the upliftment of his society's economic and social status. Of all the processes associated with manpower development, the most formal and the easiest to quantify and measure is Education. It is therefore not surprising that the initial trust of most governments especially in the Developing World is the expand facilities for formal education. Although these efforts pay off in providing increased numbers of educated people for career opportunities in government and industry, nevertheless, the vital area of craft skill formation remains largely unattended to.

Developing countries, especially those with large population and whose population growth rate appears to be increasing face more serious problems in terms of Vocational Training. The number of young people who will enter the labour market in the years ahead appears quite enormous.

The training task will not just be one of adjusting existing formal technical education system or adopting temporary measures, but of creating and strengthening vocational training infrastructures in order to bring about substantial, permanent increase in the number of well trained craftsmen and technicians of assured quality.

Introduction:

According to the programme we have before us, my main contribution to our deliberations today is on Non-Formal Vocational Training programme of the Industrial Training Fund and its content relevance.

Although Nigeria is naturally endowed with tremendous human and material resources, there is no gain saying the fact that our country has not yet got all that is necessary to make her fully developed industrially. The essential factors lacking are the availability of relevant indigenous technology and adequate trained manpower. To meet this identified requirement, there is need for the development of adequate manpower that possess the full range of technical, managerial and professional skills. In this regard, it is important to recognize that there is no one educational delivery system which, exclusively on its own, would be sufficient to satisfy the emerging and pressing manpower needs of the various sectors of the national economy.

Rather unfortunately, over the years, our educational systems and institutions have not been developed to provide adequately for all categories of manpower, most especially the skilled craftsmen and technicians required for industrial development. The Nigerian economy is faced with among others, two critical issues regarding the amount of demand and the rate of supply of industrial manpower.

The first issue concerns the acute shortage of skilled manpower as compared to the huge demand of the Nigerian industrial labour market. The overall picture of this situation for the whole country is easily portrayed in the attached Table I which is an extract from the fourth National Development Plan (1981-85). As would be observed from the statistics contained in the table, only a carefully planned and well implemented strategy of industrial manpower development can save Nigeria from the continuous and expensive importation of skilled personnel to execute her plans of technological advancement.

Another dimension to the problem of industrial manpower development is the pattern of production of skilled manpower in Nigeria. In our efforts to bridge the gap between the supply and demand of industrial manpower, a very serious imbalance has been observed.

In the data obtained from the 1977 National Manpower Board Survey for the manufacturing and industrial subsector, the ratio of professional to technical personnel average 2:3 or 1:1.5.

This ratio shows considerable shortfall in the number of trained technicians when compared to the recommended ratio by the International Labour Organization (ILO) of 1:4.5 i.e. two Engineers to nine Technicians. The ratio of professionals plus technicians to craftsmen and skilled workers was also obtained from the 1977 National Manpower Board Survey to be 1:13 which is also very much higher than the average for manufacturing industry in most developed countries, where the average figure is between 1:20 and 1:40.

The observed imbalance appears to be perpetuated with the present formal educational arrangement of the 4th National Plan. With the establishment of seven more Federal Technological Universities in Nigeria, the anticipated enrolment of the 20 Federal Universities and those being established by State Governments is expected to rise up to 120,000 students by 1985. Whilst on the other hand, all the Polytechnics and other technical institutions will by 1985, have a student population of about 80,000. Thus, Nigeria would still continue to produce more University graduates than technicians and craftsmen, who are to provide support for them (see Tables ILA and IIB). We would end up in 1985 with a ratio of 1:1:1 instead of 1:4:25 as the ratio of the output of professionals to technicians to skilled workers. It thus seems most likely that the pre present situation in which high level manpower is utilized to do low level manpower jobs will still persist rather unfortunately.

The concept of Vocational Training

I believe it is useful to establish the conceptual perception of the term "Vocational Training" as it is being used in this discussion.

Various definitions of the terminology, "Vocational Training" abound, depending on the author and the nature and scope of his submission. However, of particular appeal is the definition given by the International Labour Organization (ILO) which affirms that:

> "Vocational Training involves all activities which essentially aim at providing the skills, knowledge and attitude required for employment in particular occupation, group of related occupations or a function in any field of economic activity including agriculture, industry, commerce, the hotel, catering, and tourist industries, public and private services, etc."

Viewed in this perspective, the concept of Vocational Training is broad and all-embracing. In order to avoid undue ambiguity, and particularly in view of the cumulative experience and the primary pre-occupation of the ITF with manpower development for the intermediate and lower levels, "Vocational Training" in the context of this discussion will be limited to the training of technicians and draftsmen.

This delineation, however, does not necessarily preclude further debate on who really is a technician or craftsman. The debate, although it is pertinent, will not be articulated in this paper, so as to conserve available time. It may suffice to add that if the main products of Vocational Training are usually technicians and craftsmen, it is useful to identify clearly who these categories of personnel are and, in the interest of this submission, it is useful to mention, albeit later, what contributions they can make to industrial development.

Although the responsibilities of a technician in any country may differ according to the prevalent economic and social circumstances, we may, as a reference point, adopt the definition of a technician as given by the committee on Manpower Resource for Science and Technology (UK) in their report on the 1965 Triennial Scientific Manpower Survey. It states:

> "Technicians and cother technical supporting staff occupy a position between that of a qualified scientist, engineer or technologist on the one had, and the skilled foremen or craftsmen or operators on the other.
>
> Their education and specialized skills enable them to exercise technical judgement. By this is meant an understanding by reference to general principles, of the reasons for and purposes of their work, rather than the reliance solely on established practices or accumulated skills."

From the above definition the functions of a technician may be summarized as:

- exercising technical judgement based on the understanding of the principles of his job;
- taking initiative when confronted with problems related to his work;
- supervizing other skilled workers, including craftsmen and artisans.

Vocational Training should therefore aim at producing technicians with the above qualities in terms of attitude, skills and knowledge. There is often the tendency in Nigeria to identify technicians by reference to educational qualifications only instead of the functions they perform which should be paramount. Technicians should, in the first instance, be identified by the functions they perform

Essentially, the training of a technician rests on the proper identification of this functions and designing a programme that will impart the knowledge, skills and competence required to perform the function. This analogy of training requirement applies,to a less extent, to the training of craftsmen.

Formal Vocational Training System in Nigeria

Until quite recently in Nigeria, Technicians and Craftsmen were produced mainly by formal training institutions. The few exceptions were the products of the training units of the major public utilities (parastatals) like the Nigerian Railway Corporation, the then Electricity Corporation of Nigeria (ECN), the old Marine Department and Public Works Department, to just mention a few. In the most recent past, none of these bodies was able to produce half the number of technicians and craftsmen required to maintain its services. The large number of industries in the private sector have always however, managed to produce the minimal number of technicians and/or craftsmen required for their operations.

The one single major source of the training and production of technicians and craftsmen in Nigeria has been the formal Vocational Training Institutions known as Government Trade Centres. Presently virtually all such institutions have been re-designated as Government Technical Colleges or Schools. These institutions were run and most of them are still being run by the Federal and State Ministries of Educations. As far back as April 1981, there were over fifty Government Technical of Trade Centres in existence throughout the Federation.

The new Federal Government's National Policy on Education, as postulated in 1977, prescribed elements of technical education and skills training for all levels of the six years primary education, as well as for the three years each of the junior and senior secondary schools. This policy specifically requested all junior secondary schools to prepare their pupils for full pre-vocational training in the basic technical occupations. Such training is to provide a strong technical orientation for the junior secondary school pupils that do not have aptitude or capacity for the grammar school type of senior secondary education.

This category of pupils will then move from the junior secondary school to the purely Vocational Training Centres where their further training will turn them into Craftsmen and/or Technologist in due course. Between 1981 and December 1983 all categories of formal educational institutions, all over the Federation, were starved of funds required not only to provide the necessary workshops and tools for the implementation of the new national policy on education, but also for the payment of teachers' monthly salaries. In such a situation, the well designed policy on education which imposed the introduction of practical vocational training subjects on the syllabi and curricula of primary and junior secondary schools proved unworkable.

Common Problems Experienced By All Formal Vocational Training Institutions

Almost all the formal Vocational Training Institutions without exception, were and are still confronted by the following perennial problems:

(i) There is no effective national coordinating authority for the formal vocational training institutions. Thus, training offered by these institutions used different curricula and syllabi which are unfortunately not standardized.

(ii) The institutions always have acute shortage of qualified and/or experienced Trade Instructors. The few good ones available were easily frustrated due to lack of bright career prospects and often abandoned their jobs for more lucrative appointments in industries.

(iii) The workshops in the Vocational Training Institutions were always in dire need of tools and consumable materials. Most of the equipment in use are obsolete and not in tune with the equipment and machinery in use in local industries around.

(iv) The curricula used in the institutions were not commensurate with the Government Trade Test examination, taken at the end of the 3-year course and usually conducted to last only for a few hours. This Terminal Examination (Trade Test) as presently conducted, could never prove to be an efficient measure of skills training undertaken in so many years. Furthermore, the Trade Test Examinations syllabi have not been modified for many years despite the rapid pace at which technology and industrialization has changed, over the years.

The Non-Formal Vocational Training Programme In Nigeria

In the previous section, a brief situational analysis of the formal vocational training institutions in Nigeria was highlighted. In more recent times, a lot more efforts was geared towards non-formal vocational training.

The organizations involved in the establishment and running of non-formal vocational training include religious or voluntary organizations, Federal and State Ministries such as Industries, Works, Trade & Cooperatives, Social Development, Youth & Sports and Employment Labour and Productivity, etc. Prominent amongst the non-formal vocational training institutions are the following:

(i) The Opportunities Industrialization Centre (OIC) Lagos.

(ii) The Vocational Skills Improvement Unit (VSIU) of the Ibadan Polytechnic.

(iii) Vocational Improvement Centres (VICs) including Business Apprenticeship Training Centres.

(iv) The Young Men's Christain Association (YMCA) Vocational Training Centres all over the country.

(v) The Artisans Training Centres of Borno, Gongola and Bauchi States.

The Vocational Improvement Centres (VICs) utilized the physical facilities of existing Government Technical Schools or colleges to provide part-time evening vocational training courses for full-time employees as well as self-employed craftsmen such as the road-side motor and radio/television mechanics.

Following years of periodic appraisals of the efforts of various non-formal vocational training institutions in the Federation and also in a bid to introduce into the national economy, an effective and systematic vocational training system, the ITF in 1978 commissioned a study of In-Plant and Apprenticeship Training in Nigeria. The report of this study showed that the standards attained in vocational training institutions were as varied as the number of bodies and organizations that run the various vocational training centres. This report also confirmed that vocational training in the formal vocational training institution was more or less improvized and geared more towards theory than practice.

Regarding vocational training as implemented outside the formal and non-formal institutional training centres, the Fund's observations showed that the programmes in each case were far too restricted to the immediate needs of each employer offering such a training programme. In the light of all the problems enumerated in this section, the Industrial Training Fund was therefore compelled to take steps to establish a National Apprenticeship Scheme in a bid to establish national standard and competence.

The ITF Draft National Apprenticeship Scheme

By mid 1978, the Industrial Training Fund prepared a draft National Apprenticeship Scheme which was widely circulated to Federal and State Ministries, Parastatals, Employers' Associations and the Trade Unions. Furthermore, the Fund initiated discussions on issues raised in the draft scheme with the various Ministries, Employers' Associations and Labour Unions and other bodies during which there was a unanimous agreement as to the urgent need to set up an effective National Apprenticeship Scheme in Nigeria.

An Inter-Agency Committee was set up late in 1978 to deliberate on the draft National Apprenticeship Scheme prepared by the Fund, and to find out ways to streamline the overlap in the assigned responsibilities of ITF, NBTE, Federal Ministry of Education, and the Federal Ministry of Employment, Labour and Productivity. The Committee comprised high level representatives from the following:

- The Federal Ministry of Education
- The Federal Ministry of Employment, Labour and Productivity
- The Federal Ministry of Works
- The National Manpower Board (Federal Ministry of National Planning)
- The Nigerian Employers' Consultative Association
- The Nigerian Association of Chambers of Commerce, Industries, Mines and Agriculture
- The Manufactures Association of Nigeria
- The Nigerian Labour Congress and
- The Industrial Training Fund.

The Committee met several times between 1979 and 1981, during which period, agreement was reached on the text of a National Apprenticeship Scheme. The Committee also made the following recommendations to the ITF Governing Council:

(i) That there shall be a National Apprenticeship Scheme to be controlled and supervised by the Governing Council of the Industrial Training Fund.

(ii) That the Industrial Training Fund's Governing Council should set up a National Apprenticeship Committee to deal exclusively with matters relating to the National Apprenticeship Scheme

(iii) That the Governing Council of the Fund should immediately set up a new and full fledged department at its Headquarters with field units at all Fund's Area Offices to deal exclusively with the National Apprenticeship Scheme.

All the above recommendations of the Inter-Agency Committee were accepted by the Fund's Governing Council.

Draft Enabling Legislation for the NAS

Although legal opinion in the Federal Ministries of Justice and Industry indicate that the present ITF Act is sufficient to enable the Fund to operate the Scheme, nevertheless, it is the opinion of the ITF Governing Council and its Management also, that a separate Apprenticeship Act will lend more authority to the Fund to implement the scheme. So, a draft legislation to formally establish the scheme has been prepared by the Fund and is a waiting enactment into law.

The Fund's Vocational Training Centres

Under the national apprenticeship scheme developed by the Fund, Vocational Training Centres are being established in some of the industrial cities of the Federation. One centre has been established and is now in operation in Lagos, the other is currently under construction in Kano.

The Fund's Ikeja Vocational Training Centre

This Fund's Pilot Vocational Training Centre which commenced operation with 45 trainees in May 1983 was conceived as a major contributory training scheme for low level technical manpower development by the Fund. The training content was designed to:

- provide trainees with occupational skills and technical know-how;
- foster necessary work attitudes and proper discipline among trainees and develop them as competent skilled workers; and
- instil into the trainees a sense of pride in their trades

The Centre provides industry-oriented courses in the following three (3) occupations:

- Fitting and Machining
- Electrical Installation
- Agricultural Machinery Maintenance and Repairs.

There are 15 trainees for each class which presently deals with each of the three (3) occupations.

Initially the centre was conceived as a centre to provide one (1) year training, but when the Fund successfully initiated the National Apprenticeship Scheme, it became necessary to alter the training arrangement of the centre to be in line with the proposed apprenticeship training programme. The present training plan for the centre is as follows:

- Phase I: A forty (40) week comprehensive institutional training during which the trainees cover a number of modules of skills, knowledge and attitudes in their respective occupation.

- Phase II: A twelve (12) month industrial attachment of trainees comprising largely supervized on-the-job training at the shop-floor level in selected companies.

- Phase III: Up to 12 months at the Vocational Training Centre, during which the trainees receive supplementary training to remedy identified deficiencies. At the end of Phase III the trainees sit for their final examination by the Fund.

Training Curricula and Content

The curricula in use at the Centre was jointly developed by staff of the Fund and consultants from MECAFORM S.A. of France. The process of development included extensive studies in industries to establish the job contents of the three occupations offered at the centre. This was followed by the preparation of learning packages which were designed to fall in line with the level of technology available and anticipated for the country for the next 10 years.

Addendum

During the first year training at the Centre it was discovered that the training curricula and learning elements for electrical and machanical while adequate for the training of fittings and machinists and electrical installation machanics respectively it provided very little training in maintenance skills both for mechanical and electrical trainees. Consequently the Fund is currently modifying the curricula for these two occupations to include:

Electrical Maintenance

- Developing Trouble-shooting skills
- Electrical Trouble shooting
- Element of Mechnics
- Bearings
- Lubrication
- Power

Mechanical Maintenance

- Developing trouble shooting skills
- Elements of Mechanics
- Lubrication

- Drive components
- Bearings
- Pumps
- Introduction to electricity

It is hoped that these modifications would introduce the 1st year trainees properly to maintenance so that in their 3rd year they could do more specialized work in maintenance to include elements of hydraulics and pneumatics to enable their main complex modern machines on completion.

Assessment

Besides the final examinations, phased testing and cummulative assessment methods are used because they provide feeback which enables the faults of the trainees to be corrected during training. Furthermore, the Fund is currently working very hard with the British Council to develop competence in the principles and practices of objective trade testing, it is hoped that the acquisition of this capability will further assume the quality of the products of the Centre.

Instructional Staff

There are at present one Head of Department and two Instructors for each of the three (3) occupations taught at the Centre. By September in 1984, it is proposed to introduce up-grading courses in the evenings. All the Instructors had their NTTC certificates or equivalent before undergoing further training in France to orientate them to the training methodology being used at the VTC. Another important experience gained at the end of the first year operation of the Centre, is the need to have well trained Instructors who are capable of presenting both theoretical and practical lessons. Although all the Instructors received Instructor Training in France before deployment to the Centre, it was observed that most of them still found it difficult to present practical lessons properly. The Fund therefore had to use faculty and facilities of its Instructor Training Centre to correct address this problem. A good measure of success has been recorded, nevertheless, the Fund is still keeping a close check in this area to ensure that the success achieved is not only maintained but also improved upon.

The Fund's Kano Vocational Training Centre

The feasibility studies undertaken in 1982 led to the choice of Kano as the location of the Fund's 2nd Vocational Training Centre. A site has been acquired and paid for, for the purpose. The eleborate work done on the project so far should enable construction to begin shortly so that the centre may commence training sometime in 1985.

The Kano Vocational Training Centre on the other hand has been designed to train skilled craftsmen to meet the growing needs of industries in and around Kano metropolis in the under-mentioned trades:

- Metal working
- Automotive (Petrol and Diesel - Light Vehicle)
- Agricultural Equipment and Heavy Plant Mechanics
- Building and Construction
- Electrical Installation and Maintenance
- Refrigeration and Air-Conditioning Mechanics.

It would also provide skills upgrading courses as complement to the Fund's Instructors Training Centres' (ITE) programmes.

Nature and Pattern of Training

- Full time apprenticeship
- Time release apprentices (day, week, etc) and
- Up-grading skills of working adults.

The main characteristics of the training at the Centre are detailed in the attached Appendix III. For full-time apprentices, the centre will offer first year off-the-job training. The second year training for this category of trainees will be undertaken in industry while the third year training will be offered at the centre.

The Instructor Training Centre

The Fund's Instructor Training Centre which is a wing of the Kano Vocational Training Centre was designed to meet the following objectives:

- Provide well-trained Instructors for existing and projected Fund's 'Model' Vocational Training Centres
- Assist in the training and development of competent Vocational Instructors for vocational and technical schools as well as for In-plant training situations.

Nature of Training

The Centre which is currently operating from a temporary site at the Government Technical Secondary School in Kano, offers programmes which include an appreciable amount of technical up-grading. The training offered at the centre is in three major stages.

Theoretical Training

This component will include inter alia:

- General and Trade Methodology
- Teaching and Industrial Psychology
- Instructional Methods
- Trade Theory
- Other Theoretical Subjects
- Communication Skills
- Blue Print Reading
- Industrial Safety
- Daignostic/Trouble Shooting Techniques

Skills Up-grading

This component compose mainly of up-grading of skills of the instructor trainees. It is offered in any or a combination of the following places:

- ITF Vocational Training Centres' Workshop
- Workshops of other Vocational/Technical Training Institutions

Teaching Practice

The Centre also provide supervised teaching practice for its trainees. This component which is usually supervized and organized by Fund's Instructor Training any of the undermentioned training situations:

- In Vocational Training Centre
- Through the Training of Apprentices in Firms.

Although the centre handles trainees who have had some good measure of occupational training, most of the trainees would certainly need additional training and exposure in:

- Technical skills, up-grading, development or learning of additional related skills
- Courses in Basic and Advanced Instructional Techniques
- Practice of instruction under Guidance and Tutorial
- Experience of Training Centre operation, particularly on system-planning control of trainees
- Use and adaptation of Training Materials
- Specialized short courses on
  - Audio-Visual Aids
  - Testing System - Preparing, Testing, Interpreting

The Proposed Additional Three (3) VTCs of The ITF

The ITF has proposed to establish five (5) non-formal Vocational Training Centres by 1985. With a Centre now in operation at Ikeja and another under construction in Kano, the Fund conducted a feasibility survey to identify required occupations and the sites for the remaining three (3) Centres. The survey was also requested:

- To examine the quality and adequacy of skilled tradesmen in a selected number of industries;
- To examine the problems and constraints facing the Industries in obtaining the right type of skilled craftsmen;
- To obtain data on existing and anticipated employment growth rates of the graduates of existing vocational training centres;
- On the basis of all the above to device alternative training strategies for skilled craftsmen and suggest ways of implementing them.

Scope of Survey and Data Acquired

The survey covered seven (7) States of the Federation viz: Anambra, Imo, Rivers, Bendel, Oyo, Cross River, and Kaduna.

The Industry-institutional survey was conducted by means of interviews and guided questionnaires. The census or complete enumeration method was used to collect data on:

- Pattern and distribution of industry groups in each of the locations selected for the study;
- The total number of employees in each industrial sector;
- Performance standard and labour demand as well as supply now and in the next 2-3 years;
- The impact of technical institutions on the skilled manpower supply.

This feasibility study on both the selection of locations of Fund's (3) additional VTCs and Trades to be taught therein has now been completed and the report is awaiting the consideration and decision of the Fund's Governing Council. In the meantime, preliminary plans are prepared for their development.

In-Company Apprenticeships

The ITF non-formal vocational training scheme plans an extensive use of In-Company Apprenticeship arrangements. The need for this type of arrangement is quite obvious. There are lots of residual training facilities at the shop-floor of some companies which could be effectively utilized for training with careful planning. Furthermore, training in some occupations are better done through systematic in-company apprenticeships. These account for the Fund's interest in the National Apprenticeship Scheme.

Apprenticeship Training Manual

The ITF had prepared a draft Apprenticeship Training Manual in 1983 for use in setting up a Pilot Apprenticeship Scheme in Jos.

Training Curricula

Training curricula and learning elements both for In-Company Apprenticeships, were completed in 1983 for the undermentioned occupations:

- Mechanical Maintenance
- Electrical Maintenance
- Automotive Mechanics

Trained apprentice instructors as well as those from the Fund are currently involved in this Pilot Scheme. One important experience gained by the Fund with this pilot scheme is the need to ensure that skills standards of the 'Master Craftsmen' to whom apprentices would be attached are adequate. The experience so far gained indicate before the commencement of any apprentice training programme in any company, it is important to carryout skill audit of the "Master Craftsmen" and to arrange immediate skills up-grading for those whose skills level are dificient. This singular need may delay the commencement of any apprenticeship programme for up to a year. There should be no fuss for such a delay as it pays up in the long run.

Use of Mobile Training Centres

The Fund is currently training some of its trainers in the design and use of Mobile Vocational Training Units. The Mobile Training Units are required to provide training in places where no fixed centres or industry training facilities are available.

Concluding Remarks

In the foregoing sections of this submission, I have attempted to analyse the conceptual frame work on which the Fund based its involvement in non-formal vocational training in Nigeria. There is no gain saying the fact that proper analysis of problems and prospects of other forms of vocational training systems operating in the country laid solid foundation to the Fund's different approach to vocational training in terms of our local economic realities.

The steps which the Fund has taken during the immediate past years included evolving a non-formal vocational system through consultation with and joint committee of, all parties public and private sectors. Such steps seem original and capable of bridging the gap between the demand and supply of industrial manpower at technician and craftman levels in the near future. Thus, with Fund's existing Vocational Training Centres maturing with time through constant but purposeful reviews of programmes of action and hopefully, the National Apprenticeship Scheme coming into law, the desired base for relevant indeginuous technology would be set in the country.

The modest beginning which the ITF has made will, therefore, be vigorously strengthened with the establishment of additional vocational training centres in both fixed and mobile forms, subject to the limitations of the resources available to ITF. It is equally hoped that, in no distant future the graduates from the Fund's Vocational Training Centres and the Apprenticeship programmes would be assessed on the shop-floors of industries. Then, also, shall our prudent criteria for assessing and certifying trainees be tested for their relevance. However, I wish to assure you all that our trainees will do us proud in relation to their contribution to Nigeria's industrial and technological take off.

Finally, I do hope that Fund's approach to non-formal vocational training will provide new vistas in tackling the problem of craftskill training in Nigeria.

Thank you.

Jos, July 1984

Table I

Subsector	Estimated Total Gainful Employment 1980 (No.000)	% Share	1985 (No.000)	% Share	Additional Employment 1980-85 (No.000)	% Share
	(I)	(II)	(III)	(IV)	(III)	(I)
Mining and Quarrying	123	0.40	138	0.40	15	0.40
Manufacturing and processing	5,235	17.00	6,287	18.17	1,051	27.6
Building and Construction	339	1.10	414	1.20	75	2.0
Utilities	47	0.15	62	0.18	15	0.40
	5,745	18.7	6,301	20.0	1,156	30.4

Source: Extract from Table 35.2 (Page 424) of 4th National Development Plan (1981-85) Document, January 1981.

Note: According to the estimates contained in the above Table I of the 4th National Development Plan (1981-85) Employment in the industrial sector between 1980 and 1985 will grow by approximately 1.156 million persons.

TABLE II

NIGERIAN UNIVERSITIES

PROJECTED ENROLMENTS - 1981-1985

Universities	1980-81	1981-82	1982-83	1983-84	1984-85
Ibadan	8,595	9,557	10,634	10,285	10,485
Lagos	8,557	9,557	10,242	10,595	10,905
Nigeria Nsukka	8,060	8,642	9,411	10,170	10,625
Zaria	10,396	11,122	12,279	12,170	12,985
Ife	8,771	9,217	9,620	10,342	10,675
Benin	3,890	4,660	5,681	6,560	6,985
Jos	3,293	4,135	5,158	6,045	6,610
Calaber	2,751	3,036	4,151	5,031	6,015
Kano	2,775	3,550	4,275	5,035	6,115
Maiduguri	3,393	4,398	5,009	5,685	6,150
Sokoto	1,717	2,532	3,317	4,217	4,625
Ilorin	2,002	2,399	4,201	5,220	6,215
Port Harcourt	1,976	2,501	3,155	3,935	4,830
Bauchi	-	400	600	800	1,000
Makurdi	-	250	500	750	1,000
Owrrri	-	250	500	750	1,000
Ondo	-	-	250	500	750
Gonglo	-	-	250	500	750
Ogun	-	-	-	250	500
Niger	-	-	-	250	500
ALL UNIVERSITIES	66,553	77,209	88,636	99,090	108,720

Note: The seven (7) newly established Federal Universities of Technology.

TABLE II B

Year	Enrolment
1975-76	11,993
1976-77	17,452
1977-78	19,880
1978-79	20,880
1979-80	35,777
1980-81	41,097
1981-82	46,985
1982-83	53,766
1983-84	61,388
1984-85	70,455

BIBLIOGRAPHY

1. New Standard Encyclopadia: Volume 13, Page T.1 49, Standard Education Society Inc., Chicago, USA.

2. SULAIMAN, Dr. T.A. - "Relevant Technology and Manpower Development in Nigeria". Unpublished paper presented at the ITF 2nd National Training Conference, Port Harcourt, Nigeria, October 1982

3. TUDUNADA, ALHAJI L. - "The Contributions of ITF to Industrial and Manpower Development in Nigeria". Unpublished paper presented at the ITF 2nd National Training Conference, Port Harcourt, Nigeria - October, 1982.

4. Federal Ministry of National Planning - "The Fourth National Development Plan (1981-1985), Lagos, Nigeria January, 1981.

5. ADUBIFA, Dr. O.A. - "National Development and Technological Dependence" Occasional Paper No.4, NISER, Ibadan, Nigeria. 1982.

6. NSTDA - "Science and Technology for Development" - National Science and Technology Development Agency, Lagos, Nigeria 1979.

7. ADEYEMI, Dr. Mat. M. - "New Technology and the Developing Countries - The Nigerian Experience". Unpublished paper presented at the 41st Congress of the International Federation for Documentation (FID) in Hongkong, 12-16 September, 1982.

8. J. LEWIS - "In-plant Training and Apprenticeship Training in Nigeria" The ITF/ILO Study Report, March 1978.

9. ITF - "National Directory of Training Facilities for Manpower Development at formal training institutions" (2nd Edition) April 1981.

10. ITF - "Draft National Apprenticeship Scheme"

11. IFT - "The operational details of the ITF Pilot Semi Mobile Vocational Training Centres: Ikeja, Lagos State", 1981.